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CHAPTER III

METHODOLOGY

3.1. Data Collection Methodology

On this final project, the author uses mixed methodology to collect the data. According to Yusuf, mixed method research is a research that uses qualitative quantitative method in one research process. Therefore, mixed research can be done simultaneously and can be done sequentially, in one problem or aspect to be examined so that later the author will get more comprehensive results on a phenomenon or problem under a study.

Qualitative method in research process is a way of collecting data through understanding and also interacting with the stakeholders which are involved in the method of collecting the data. While quantitative research process is more measurable and objective (Yusuf, 2014). The methods that are used in this final project are:

3.2. Interview

According to Yusuf, interview is indeed one of research method that is effectively used when conducting a research. Interview is a process of collecting data where there are interaction going on on both the interviewer and the person who is being interviewed. There are three types when conducting an interview: structured interview, unstructured interview and free interview. However, for this research the author decided to have a structured interview so that the author didn't miss any single information that the author would like to discuss on. (Yusuf, 2014).

3.2.1. Interview with Mr. Reza Cordova

The author conducted an interview with Mr. Reza Cordova, whose an expert in micro plastic. He is the lead scientists regarding micro plastic in Indonesia and he works on LIPI (Lembaga Ilmu Pengetahuan Indonesia), he has examined different marine areas in Indonesia, the interview was done face to face on the 25th September, 2019.



Picture 3.1. Mr. Reza Cordova LIPI scientist
(the author personal documentation)

3.2.2. Interview with Elex Media Komputindo

At the 22th of October 2019, along with several friends the author visited Elex Media Komputindo in Central Jakarta, Tanah Abang to gain more information related to book publishing such as book sizes, font, type of binding, type of paper, etc. Elex Media Komputindo is a publishing company in Indonesia that publishes books, comics, magazines, novels and including several other print media. Elex Media Komputindo was first established in 15th January 1985 and it is a subsidiary of Kompas Gramedia Group. The interview with Mr. Joko as the editor of Elex started at around 14.00 and finished at 15.45.



Picture 3.2. Visiting Elex Media Komputindo
(the author personal documentation)

From the interview, Mr Joko explained to us that the first thing that we have to know if we want to make a book is to figure out who the target reader will be, and how many information that will be delivered through the book. He then conducted a presentation through power point that he already prepared before. On the presentation he explained that there are two types form of book; printed book and electronic book. Printed book is tangible while electronic book can only be accessed through electronic media. Generally, there are two classifications of book in general; education book and general book. Education books are books that is made for educational purposes ranging from early age to mature age it can contain text and non-text such as images. While general books are classified as books that are out of the education books context. He also mentions that Indonesia has a regulation about the bookkeeping system which is regulated in law no. 3 at the year 2017. The law itself explains four major points that a book must have and the points are: 1) Have a good material content in developing insight as well as

the character of the target audience. 2) Have a good level of readability so that it can be understood by the target readers. 3) Have a good presentation both internal and external parts of the book to attract the interest of the readers and fosters interest in their reading. 4) When designing a book not only it has to have physical worthiness but it also must have a pedagogical compatibility with the target readers as well as the content and aesthetic elements that foster the desire to read in the target readers.

Mr. Joko then explained that Elex then divided the target readers into 7 classifications:

1. Pre-reading Level
2. Early Reading Level 1
3. Early Reading Level 2
4. Fluent Reading
5. Intermediate Reading
6. Advanced Reading
7. Critical Reading

3.2.3. FGD (Focus Group Discussion)

The author conducted an FGD (Focus Group Discussion) with eight students ranging from 8-11 years old on Tuesday, 15 October 2019 at 2.00 PM – 3.00 PM at St. John Catholic School, BSD. The material that is discussed during the FGD is related with the size of fonts that the readers will find it easier to read and

finding out whether they can understand the material that will be given, and how far do they know about plastic and micro plastic.



Picture 3.3. Focus Group Discussion at St. John Catholic School BSD
(the author personal documentation)

Before conducting the FGD, the author prepares the material that will be used during the FGD process. The author gave out a dummy prototype book that is separated into two parts, one containing illustration that the author has made with a pop-up spread and the other one contains no pop-up to know which one they prefer. The author also put information on the no pop-up prototype with Bahasa and the other one with English to see which information they can receive best.

Based on Setiautami, type of fonts that are suitable for children books are font that has a rounded corner and has the size ranging from 14-24 pt (Setiautami, 2011). The author prepared worksheet for the FGD participants with various font sizes ranging from 14-24 for the participants to choose.

HI! KENALAN YUK!

NAMA LENGKAP:
 NAMA PANGGILAN:
 USIA:
 KELAS:

DI KOLOM DI BAWAH, TULISKAN SUMMARY DARI SPREAD YANG BARU SAJA KAMU BACA

KAMU LEBIH SUKA MEMBACA DALAM BAHASA APA?

BAHASA INGGRIS BAHASA INDONESIA

1 NYLON LAUNCHES, AND NEIL
ARMSTRONG PLANTED NYLON FLAG
ON THE MOON.

2 NYLON LAUNCHES, AND NEIL
ARMSTRONG PLANTED NYLON FLAG
ON THE MOON.

3 NYLON LAUNCHES, AND NEIL
ARMSTRONG PLANTED NYLON FLAG
ON THE MOON.

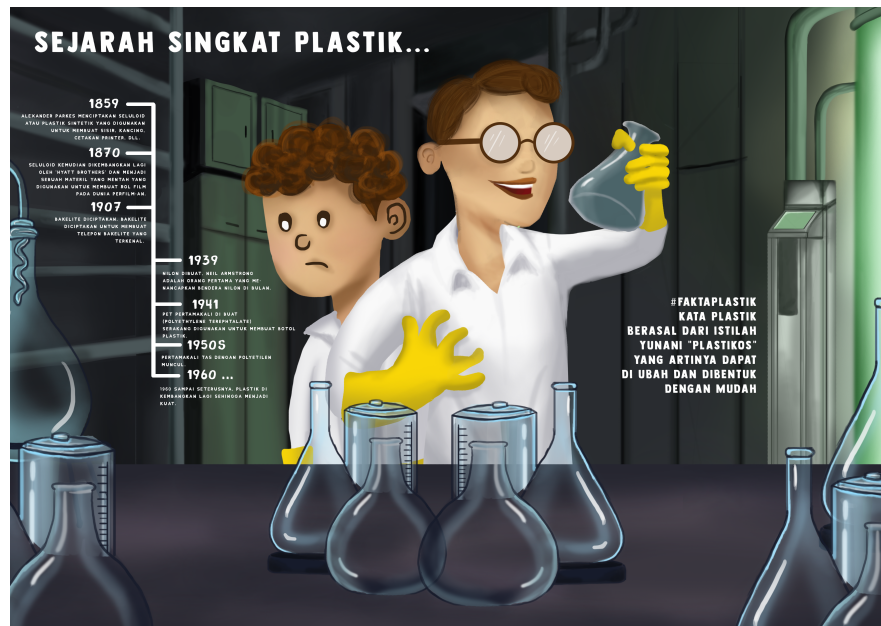
4 NYLON LAUNCHES, AND NEIL
ARMSTRONG PLANTED NYLON FLAG
ON THE MOON.

5 NYLON LAUNCHES, AND NEIL
ARMSTRONG PLANTED NYLON
FLAG ON THE MOON.

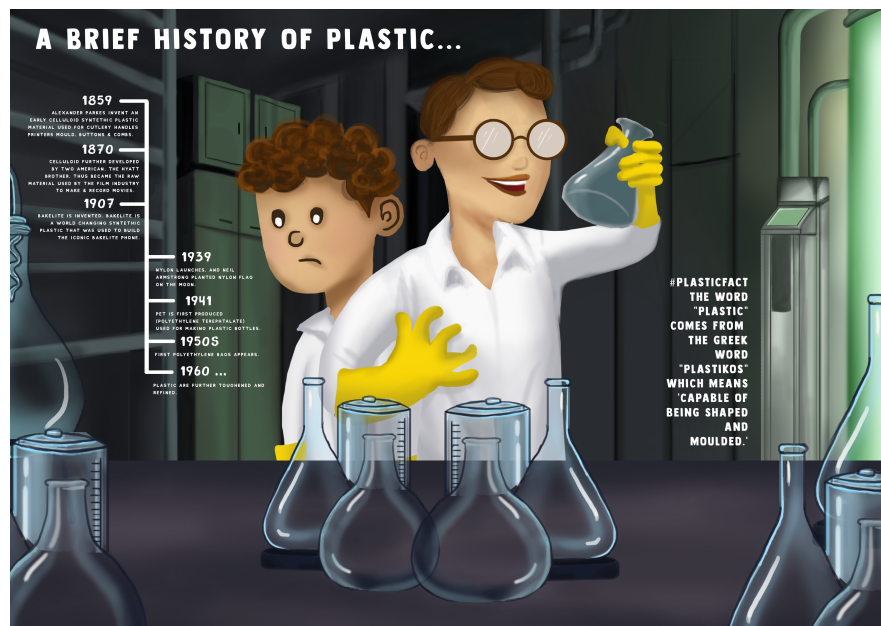
Picture 3.4. Hand out form for FGD

(the author personal documentation)

On the handout form, the participants of the FGD, must fill in their basic personal information such as their full name, age, and what grade are they currently in. Under the personal information section there is a box that they have to fill in. They must write a summary about the information that they have read on the spread that the author gave. After filling out the summary, the author gave them an option to know whether they can extract more information in Bahasa Indonesia or in English since the information on each passage are the same. On the right side of the page, the author gave a text with various font sizes to know which font sizes the participants prefer. The picture below is the handout Spread that the author shares during the FGD. The purpose of the handout was to observe the children interaction with the spread with the pop-up and the spread which doesn't have the pop-up mechanism in it.



Picture 3.5. Handout Spread in Bahasa



Pictue 3.6. Handout Spread in English



Picture 3.7. Conducting the FGD and asking questions to the target readers at St. John's Catholic School BSD

Based from the Focus Group Discussion the author then got so many various data that help the making of the final project. From the given-out spread sheet, the children are able to understand the information within the spreads, the spreads contain information about the brief history of plastic and how it forms, all of the eight FGD participants chooses bahasa as their most favorable languages for them in order to read and understand the content. The left form of the hand-out sheets contains font that ranges between 10 pt, 12 pt, 14 pt, 24 pt and 32 pt. Based on the discussion, the children prefers to read 14pt text. The author also conducted several more question to research and observes more about the children's preference and how the children engage with the pop-up mechanism.

3.2.4. Observation

The writer did an observation on March 25th 2020 and went to two different beaches to obtain information about how children behave near the shore, what kind of games do they play with their friends, what kind of stuff do they interact with on the beach, how do they dress up. The author also went to the most polluted beach to get an idea of how a very polluted beach looked like, what kind of living creatures lives on the beach, how the waste is piles up on the shore to assist in the design process later.

3.2.4.1. Gading Ampenan Beach



Picture 3.8. Gading Ampenan Beach

Gading Ampenan Beach was the first beach that the author went into, the beach is located in Ampenan, Lombok-West Nusa Tenggara. The beach itself is usually packed with local tourists that relax on the beach shore, it is located near a fishing village so there are many fisherman boats parked on the shore line.



Picture 3.9. The Entrance of Gading Ampenan Beach

The color of the sand is not white. When the author went there, luckily there are some children playing around with their friends on the beach, there are some too on the water, naked. The beach was empty because of the corona virus outbreak causing lack of visitors due to safety reasons.



Picture 3.10. A huge pile of mixed waste washed up on the shore line

There was also a sale between the fisherman and the local villagers, purchasing fresh fish that the fisherman just caught. While the author was walking along side of the beach, the author found many scattered pieces of single-used plastic such as foodwrap, and a whole pile of mixed waste like a piece of clothing, fabric, sandals, detergent, instant noodles, single used plastic cup and bottles and many more. During the observation, the author also found animals on the beach such as chicken, chicks, dogs, cats. Sadly, they were scavenging the waste that was piled up on the shore. The local villagers that manage/supervise didn't cleaned didn't clean the shoreline.

3.2.4.2. Penghulu Agung Ampenan Beach

The condition of the second beach that the author went was even far worse than the first beach which is the Gading Ampenan Beach. Although the location of these two beaches is not really actually that far from one another, but the condition of the beach differentiate between these two beaches. The Penghulu Agung Ampenan Beach erode causing the shoreline closer to the villagers. There were many piles of trashes among the shore line.



Picture 3.11. Pile of waste getting washed up and piling on the shoreline of the Penghulu Agung Ampenan Beach

The pile of trashes was also a mixture of a dried plant waste, fabric, there was even a teddy bear, diapers, single used wrappers, food wrap, detergent wrapping, fishing net, plastic cup, plastic bottles and many other more. The pile of trashes piled up throughout years and years. The author also observed that seems like villagers are using the pile of trashes as a dumping site.



Picture 3.12. The piles of waste on the Penghulu Agung Ampenan Beach



Picture 3.13. The wastes are being hitted by the waves.

3.2.5. References Study

On references study, the author chooses books that uses various types of paper engineer and pop-up mechanism. The author is planning to apply the paper engineer and pop-up mechanism that is used in the references study book to help the author determine which mechanism is the best option to develop. This observation also aims to help the author on deciding what type of paper that pop-up book on the market use, what book size is currently available on the market, and what type of binding that many of the pop-up book uses to bind its book.

1. Teenage Mutant Ninja Turtles: The Pop-Up Book; Paper Engineering by David Hawcock

Table 3.1. Teenage Mutant Ninja Turtle Book Specification

Title	Teenage Mutant Ninja Turtles: The Pop-Up Book; Paper Engineering by David Hawcock
Author	Brian J. Bromberg

Publisher	Insight Editions, San Rafael, California
Year of Publish	2016
Book Size	21,5 cm x 26 cm
Number of Pages	10
Paper	Bluish White 250 gsm
Typography	Sans Serif
Illustration	Cartoon
Color	Full Color
Binding	Double Fan Adhesive Binding

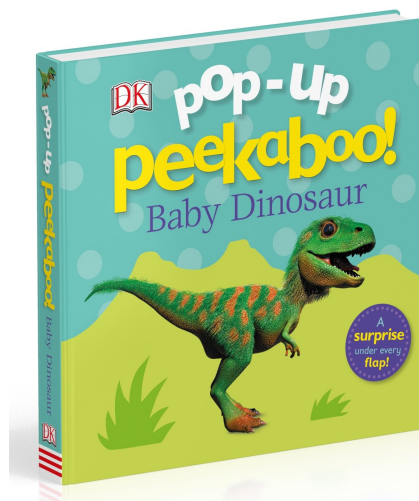


Picture 3.14. The Teenage Mutant Ninja Turtles Pop-Up Book
 (<https://www.amazon.com/Teenage-Mutant-Ninja-Turtles-Pop-Up/dp/1608878821>)

2. Pop-Up Peekaboo! Baby Dinosaurs; Paper Engineering by Maike Beiderstadt

Table 3.2. Pop-Up Peekabo! Baby Dinosarus Book Specification

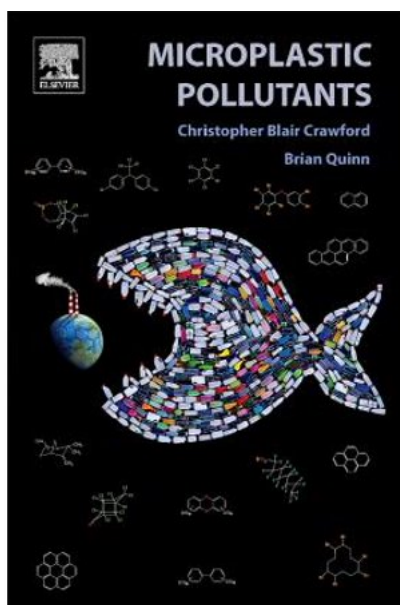
Title	Pop-Up Peekaboo! Baby Dinosaurs
Author	Clare Lloyd
Publisher	DK Publishing
Year of Publish	2018
Book Size	21,5 cm x 22 cm
Number of Pages	12
Paper	1 mm thick card
Typography	Serif
Illustration	3D Render
Color	Full Color
Binding	Double Fan Adhesive Binding



Picture 3.15. Pop-Up Peekaboo! Baby Dinosaurs Pop Up Book

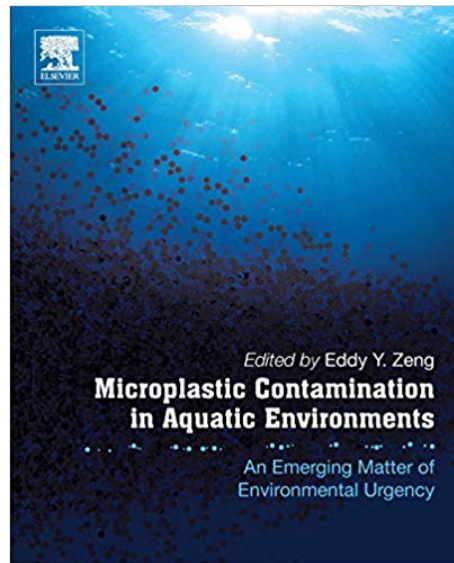
3.2.6. Existing Studies

Based on the observation that the author has conducted, the author only found one accessible book that is available at Periplus that discuss entirely about microplastic. The book is called “*Microplastic Pollutants*” by Brian Quinn and Christopher Blair Crawford. This book discuss about the growing problem of microplastic especially in the aquatic environment. Based on this book, the author is able to analyze the SWOT (Strength, Weakness, Opportunity, Threat) of the book:



Picture 3.16. Microplastic Pollutants Book Cover
(Crawford & Quinn, 2016)

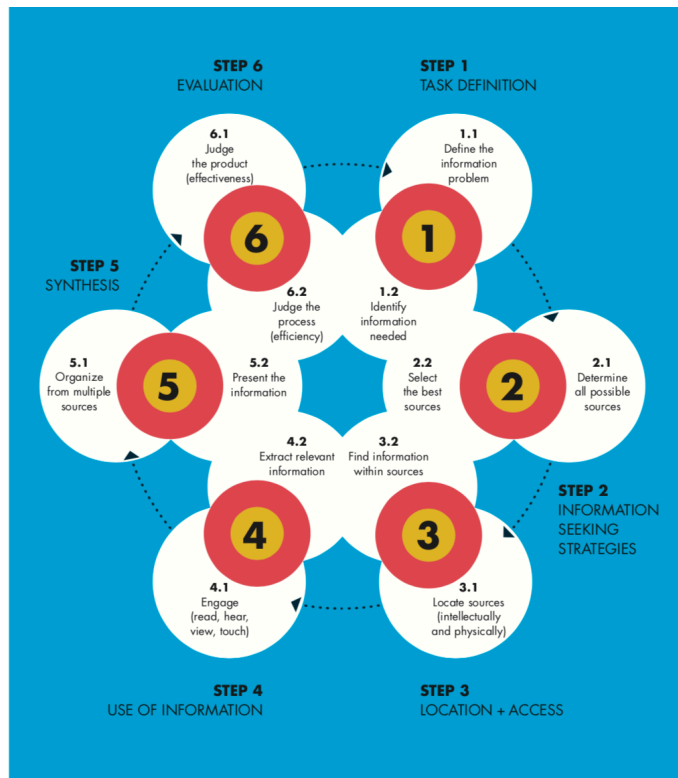
The author found a book that also talks about microplastic, the book is titled “*Microplastic Contamination in Aquatic Environments: An emerging Matter of Environmental Urgency*” by Dr. Eddy Y. Zeng.



Picture 3.17. Microplastic Contamination in Aquatic Environments
(Zeng, 2018)

Both book is very scientific with limited illustrations in order for younger adult to read and process the information, with huge amount of word readers tend to not want to read the information, it talk about very specific matters focusing on microplastic, how they form, how they are classified, and how they affected the marine environment.

The author uses “The Big 6” theories based on O’Grady’s book The Big 6 is an information literacy model, or information problem-solving strategy that was originally developed by Dr. Mike Eisenberg and his co-worker Bob Berkowitz. The methods provide the user learning process where they need to find, understand, and apply new information (O’Grady, 2017), and here are the steps:



Picture 3.18. The Big 6 Theories
(O'Grady, 2017)

1. Task Definition

In task definition the author must first define the information problem in order to identify the information that they need.

2. Information Seeking Strategies

This step is necessary to define all possible sources and then select the best sources to plan the design strategies.

3. Location + Access

First, locate the sources and find as much information as possible with the source.

4. Use of Information

After you get the information from the source, engage it: read it, hear, it touches it and choose only the relevant information.

5. Synthesis

Organize multiple sources and present the information

6. Evaluation

Test the output, is it effective and test its efficiency.